

On the constrained error bound condition for nonlinear programming

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Resumo

We derive a geometric characterization of the solution set of a continuously differentiable system of equations subject to a feasible set in which a constrained local error bound condition is satisfied. Under these hypotheses we prove that locally, the solution set has to be the intersection of a differentiable manifold with the feasible set. In addition to generalizing recent results in the field, our main statement is the key to establishing new convergence rates in nonlinear programming for projected type methods converging locally to nonisolated solutions.